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R/D COMPUTING

Dedicated to TI 99/4A and 9900 Computer Systems

.....Ryte Data.....

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Have the Januaries? Rumour has it that Myarc is now supposed to be actually shipping the 9640. The name is 'officially' the "Myarc 9640".

Tenex is slated to receive the first 500 units off the line. If that doesn't do it for you, go south to escape the winter snows....!

A DESCRIPTION AND COMMENTARY ON THE GENEVE COMPUTER. Some implications for us all. by Chris Bobbitt (c) 1986

At its introduction, the Myarc Geneve computer will be among the most advanced computers available, and definitely the most advanced "home computer" in history. It is more powerful than many minicomputers, but is available at a price that would have been unheard of 3 years ago.

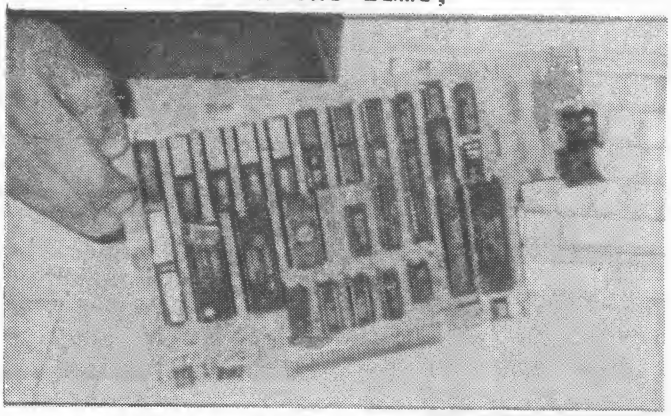
The following is a description of some of the capabilities of this remarkable device.

MICROPROCESSOR: The TMS 9995 is 5 to 6 times faster than a TMS 9900, the processor found in the TI99/4A. This processor is only slightly slower than the 68000 CPU, yet is much simpler to use, more accurate mathematically, and contains a smaller instruction set. The advantages of this smaller instruction set is an article in itself. Suffice it to say that this technique, called RISC, is getting a lot of attention in programming circles.

MEMORY: The standard Geneve Computer comes with 640k of RAM. This is expandable to 2 Megabytes using special memory expansion devices. A Myarc 512k card can be made to work with the Geneve with simple modifications. The Myarc 512k card memory may be directly accessed by programs.

GRAPHICS: The Geneve uses the Yamaha 9938 graphics processor. The 9938 processor was designed by Texas Instruments and Microsoft Incorporated. The computer world will discover this chip and its capabilities much in the same way that they proudly announced 16 bit computing for microcomputers; years after TI had introduced the TI99/4A. This graphics processor supports a variety of different modes for graphics and text.

TEXT: The Geneve supports both 40 and 80 column modes. The 40 column mode is similar to that of the 99/4A, so none of your current word processing software is obsolete. However, text, foreground and background colors may be any of 512 colors. 256 patterns are available for redefinition. One of the 80 column modes is the same,



while another supports blinking text and multi-color text. Some limitations apply, but this permits programmers of the system to use many many of the advanced human factors graphics techniques just now being developed. The use of color to impart information, much in the nature of peripheral vision, can make word processing tasks, as well as the initial learning process, easier. Your Geneve computer will be able to keep up with this emerging technology for some time. Indeed the rich

Introducing
the greatest thing for 99/4A computer graphics since, well, the introduction of the 99/4A!

For years TI-99/4A owners have looked longingly at programs such as Printshop (R) and Newsroom (R) for Apple, Atari and Commodore computers. We all have wished we could do the things that Fontrix (R) does on the IBM PC. Well, now there is a program for the TI-99/4A that does these things, and because of the special features of the 99/4A, does a whole lot more.

Font Writer, by J. Peter Hoddie (a master programmer — author of Pre-Scan It! and system software for the Myarc Geneve computer) makes text and graphics come truly together for the first time on the 99/4A. Font Writer will combine any TI-Writer text files, TI-Artist or CSGD fonts, and TI-Artist instances the way you want them to make an otherwise drab report, letter or article come alive!

Font Writer, like TI-Writer, is more then one program. The first program in the package is Font Editor — a program that will let you edit existing TI-Artist or CSGD fonts, or create new ones from scratch. Font Editor contains an innovative editing window, dozens of powerful menu-selectable utilities, and supports even more powerful user-defined macro drawing commands for drawing often used figures with a single command. As powerful as it is, like all Asgard products it's designed to be friendly and easy-to-use. It is so flexible that you can even edit TI-Artist instances.

The real power of Font Writer, and it's most innovative part, is the Text Formatter. This program accepts standard TI-Writer files with virtually every imbedded text formatting command supported by TI-Writer, along with many new such commands for graphics support, to allow you to integrate text fully with graphics easily. Text Formatter accepts new commands for printing text in different fonts, including pictures and other graphics, and more. This easy-to-use program is as simple to use as TI-Writer, yet does so much more.

The last, but not in any way least program in the Font Writer package is a powerful organization tool for graphics files. If you have ever tried ordering and maintaining TI-Artist fonts, slides, instances and pictures, you will later wonder why you ever tried without it.

Font Writer requires Extended BASIC, 32K, and a disk drive system. TI-Writer and TI-Artist are highly recommended. Extensive documentation by Walter Howe is included. Available for a suggested price of $24.95 from official Asgard Software dealers, from Teledata*Guide on Compuserve (page TDG-4), by sending Source Mail to TI9720 on Source, or directly from Asgard. All major credit cards accepted.

Asgard Software

P.O. Box 10306
Rockville, MD 20850

resources of the TI programming community may well result in some breakthroughs in graphics presentation. It is reasonably well known that some organizations in the community are working very hard in this area. Since each of these various screens occupy very little memory of the 128k of standard video RAM found on the Geneve, up to 32 screens of text can be stored in memory at once. All of this information is directly addressable by the programmer. This bodes well to provide a rich environment for the system and applications programmer and thus, the user.

The Geneve supports every text mode of the 99/4A, as well as many new modes that use much of the available memory. One of the more interesting modes supports a resolution of 256 by 216 pixels. Each pixel can be any of 256 colors. This mode also supports multi- color sprites. Each pixel row of the sprite can be any of two colors. Another interesting graphics mode supports 512 by 424 pixels with each pixel any of 16 colors. The on-screen display of a maximum of 16 diffeent colors can be selected from a pallet of 512 colors. This mode is the same resolution as the Apple MacIntosh Computer, yet the system still finds the capability to support sprites, which the MacIntosh does not. The 9938 chip has built in commands for line drawing, block moves and copies at hardware speeds. Programmers will have a rich, challenging environment for creativity, all at an affordable price for the 99/4A owner and convert alike.

INTERFACES: The Geneve has a number of ports. For video, this a port for an analog RGB monitor. The analog RGB monitor is more advanced than the digital ones used by the TI Professional Computer. Texas Instruments used the quality of the TI PRO monitor as a major component in its "Dare to Compare" campaign against the inferior IBM PC display system. An Amiga monitor displays the power of the Geneve quite well and is readily available. However, an additional port permits the use of your existing TI 99/4A monitor. Therefore, your current equipment is not made obsolete by the new machine, allowing you the luxury of getting the best price for your existing monitor and cutting the best possible deal for your upgrade. Indeed, some are already at work seeking to separate early dropouts in the Amiga world from their monitors. The Geneve also supports the Amiga mouse. Other monitors of the analog RGB type work, however, do not pay extra simply because of the name on the front.

Your 99/4A console can be used as a standalone device with the purchase of the Geneve. The Geneve comes equipped with an IBM style keyboard. Other keyboards, costing from $50 to $500 will also work just fine. Since the Geneve replicates the functions of the console, you will only need the expansion system or one of the inexpensve expansion kits.

A multifunction port permits even more access to the Geneve. While labeled as being for the Amiga mouse mentioned earlier, this can also support sophisticated applications input from equipment both exotic and common. A video digitizer can input signals, for instance. Pictures taken from a video camera can be fed into the system. A digitizing tablet, which turns the Geneve into an elaborate data collection system or a component of a computer aided design (CAD) system is fully supportable, given proper software. Light pens are, of course, appropriate input devices as is information from a video cassette recorder or a video camera. Indeed, with external converter devices available on the market, you can pipe in television signals and enjoy crisp resolution and vibrant colors never seen before from a commercial television set, thus putting your RBG monitor on overtime.

HARDWARE COMPARISONS: To put this in perspective, compare the Geneve to

The

HORIZON RAMDISK

192K RAM
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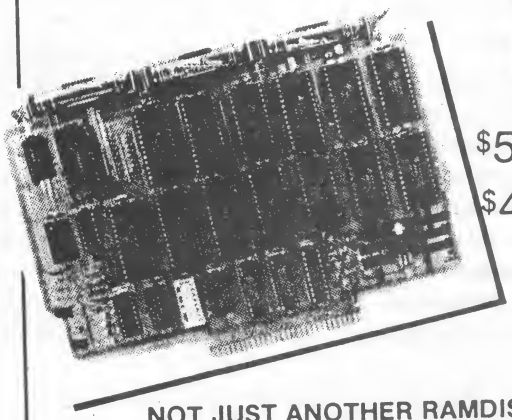

$53* PC Board, Manuals & Software

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THE ONLY BATTERY-BACKED RAMDISK for the TI-99/4A. The on-card batteries recharge when you operate your computer. The batteries will last for years and the entire 192K RAM memory is battery-backed including the DSR RAMDISK Operating System.

THE ONLY FULLY OPEN PE-BOX CARD. The Horizon RAMDISK contains no EPROM or ROM. The DSR Operating System is in RAM and is loaded from a flopy disk. DOCUMENTED SOURCE CODE is provided for those who wish to understand AND MODIFY the Operating System.

THE ONLY PERIPHERAL WITH DSR RAM which allows the assembler language programmer to write Device Service Routines. The Horizon RAMDISK memory is decoded entirely within address space >4000 to >5FFF. A special loader (provided with SOURCE CODE) enables AORG Editor/Assembler object files to be placed in the RAM on the card. You can write all new CALL subprograms for TI BASIC, power-up and interrupt service, and DSR routines making use of the 192K battery-backed RAM. >4000 to >57FF is always enabled, and the remaining 186K is paged in 2K at a time in >5800 to >5FFF with the LDCR instruction.

THE ONLY RAM CARD YOU CAN BUILD your self at substantial savings over fully constructed models. You can buy the printed circuit board, user's manual, Operating System software, and an ILLUSTRATED step-by-step construction manual with schematic and parts list and get the parts wherever you can find the best deals. Hundreds of TI Enthusiasts have built the Horizon RAMDISK. If you've had any experience building electronic kits you can too — at SIGNIFICANT SAVINGS! (If you want a fully constructed, tested and warranted unit, we sell those too.)

EASY TO USE...

> Functions just like a TI floppy drive, only FASTER! Load the operating system with a single key press, then access the RAMDISK as you would a floppy disk.

> Compatible with software using standard DSRLNK including sector copy, Disk Manager II, MG Explorer, TI Writer, TI Multiplan, and Editor Assembler. Compatible with TI BASIC, TI Extended BASIC, TI and Wycove FORTH, TI LOGO, and Assembly Language.

> Comes with the DM-1000 Disk Manager, Loads from BASIC of Ext BASIC in 1 second with CALL DM.

> Compatible with existing hardware including MAXIMEM, GramKracker, and the RAM/GRAM Card.

> Accepts drive names from DSK1 to DSK6.

> DIP switch sets CRU Base from >1000 to >1700.

> Adds CALL Subprograms to BASIC to: 1) set the drive number, 2) set write protect, 3) set maximum sectors, 4) enable DSR for direct access, 5) execute M/L code from BASIC. DELETE "XBCALL" downloads CALLs to low 8K for execution from running Ext BASIC programs.

> Comes with complete DSR SOURCE CODE. Explains how to write A/L CALL routines to enhance TI BASIC.

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P.O. Box 554
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other computers. The Genveve comes wit 640k of RAM, equivalent to a fully configured IBM PC XT. This memory is expandable to 2 megabytes, twice the standard memory of an Atari 1040 ST. The Atari ST, of course, is one of the more popular "non IBM machines" on the market. The Atari ST is the fastest microcomputer available in its price range. The Geneve is roughly equivalent. The makers of the Geneve have gone to the extra expense of installing special purpose chips to handle, among other things, input from disks, lightpens, and other devices. In a similar vein, these special purpose chips handle output to screen, disk and elsewhere. And what about graphics? Again expensive special purpose redundance pays off. Therefore, in graphics, input and output, the Geneve runs circles around the Atari ST. The Geneve deploys eight times as many colors as the Commodore Amiga. The Amiga is the superior machine with their special graphics display handling circuits in these respects. The Geneve, unlike the Amiga and the IBM PC AT, supports graphics with a 'true aspect' ratio. This is the superior form, and gives higher resolution through the use of square pixels, the tiny dots used to give your computer screen, even your television its color and appearance of depth.

The Geneve rates highly as a smoothly upgradeable machine. It obviously will be compatible with the newly developed Myarc disk controller card. In disk drives supported, the Geneve with the Myarc disk controller card will defeat the IBM PC AT. Four 20 megabyte hard disks can be supported with this upgraded configuration, not to mention that the same scheme will control four (or less) double sided QUAD density floppy dirves of the conventional 5 1/4 inch size. The drives that use the new plastic bound three inch disks are supported as well. Knowing the market, the Geneve makers realised they needed a system that would become obsolete gracefully, as has the 99/4A.

Features of the 99/4A which still challenge the marketplace are retained. An example is the 99/4A's well known device independent operating system. Virtually any peripheral can be attached, unlike almost all other computers, including those costing thousands. Device independence is a feature you (the 99/4A owner) have purchased years ago and is one that should not be discarded in the name of progress. Therefore, the Geneve is superior to most every other microcomputer in graphics, speed, memory capacity and in versatility.

A full blown Geneve system would contain a Geneve computer, a WDS model hard and floppy disk controller, a TI RS-232 card, plus a 3 slot expansion kit, linked to two full blown 720 kilobyte floppy disk drives and a high resolution serial RGB monitor. If bought all at the same time, using all new components, your system would cost less than $1,000. One of the finest features of such a system is that it can and, probably should be acquired incrementally, particularly is you currently own an expanded 99/4A system. For a machine of this class, this is an incredible price. The Atari 1040 ST is well known as the first computer that costs less than One dollar for each one thousand bytes of memory, new. The Geneve may be the first machine to drive that cost down to fifty cents per thousand.

SOFTWARE: The Geneve will come bundled with a new version of Extended BASIC on disk which is fully 6 times faster than TI Extended BASIC. Also included will be a MS-DOS like operating system. The package is called "DOS like" because the commands used will be very close to MS-DOS. However, the internal workings of the system will not resemble nor be compatible with MS-DOS. This will be a boon for those who have had to struggle through learning MS-DOS at work or on another machine. In the package also

will be an 80 column version of TI Writer with a larger memory and other features.

A number of other products specifically designed for the Geneve will be available at or near the release of the Geneve. A number of 'C' compilers will be available by all expectations. C is a very popular language on 32 bit machines and is now beginning to appear in microcomputers in the last few years. Some business software will be readily available. UCSD Pascal, actually a language within its own operating system, will also be standard. Software developed on many machines, including the IBM PC, Apple, and others which use this system will run without modification on the Geneve.

The new Geneve software will allow users to set up directories as an aid to manage multiple files. A software RAMDISK will also be available, where the user can deal with a notional or in-software emulation of a disk. All interaction on this RAMdisk will be in memory, thus it will operate at extremely high speed. Print spoolers will be available. People still pay $200 for print spoolers, which merely are hardware systems (now software) that fool both the computer and the printer. The printer is wired to signal the computer to stop sending data while the printer repositions the print head, or rolls up the platen. Meanwhile the computer is burning up thousands of cycles waiting for the printer to get ready to receive data again. A spooler is nothing but an ever ready printer to the computer and a patient computer to the printer. The job is transmitted to the spooler in a second or two and you are ready to go again while the printer goes ahead to finish the job.

TI BUSINESS MACHINES: The Geneve is assembly language compatible to the TI mini computer world, and awaits a member of that community to make that software run.

There is one silver lining in the "Perils of Pauline" development path of the Geneve, so fraught with delays. Time to think about the new arrival has been purchased with the sweat of the developer - in a process which would normally have been extremely secret and quickly sprung on the unsuspecting community with little or no warning.

NEW OFFERINGS: One new company has been started specifically to develop Geneve software. A true multi-tasking operating system is among the goals of this firm. Multi-tasking to a user means that several programs can be run at the same time. Multi-tasking is at the heart of such programs as Sidekick for the IBM where various panels, or windows are pulled down to allow notes and other activities to take place. Yet another goal for this new developer is a macro-assembler. Macro assemblers are small utility programs that can be strung together to achieve a variety of goals. In the mini computer world, programmers adroit in the macros of their particular machine rarely had to write much original code to achieve powerful results. This capability will soon arrive for you with the Geneve.

Soon after shipments of the Geneve begin, BASIC and Pascal compilers will be made available by this start-up firm. A compiler may not be a familiar concept to all who read this, though it is simple to pick up. When your 99/4A receives the RUN command, it wakes up and "interprets" the program you have told it to run; every single time. You are probably aware that assembly language is faster. The reason for this is that it is closer to machine language and therefore requires minimal "interpretation". BASIC, however, along with a host of other languages, is not that close to machine language. Easier to remember and use, but requiring some form of intervention. The interpreter is often used for BASIC. While it gives constant feedback, an interpreter is

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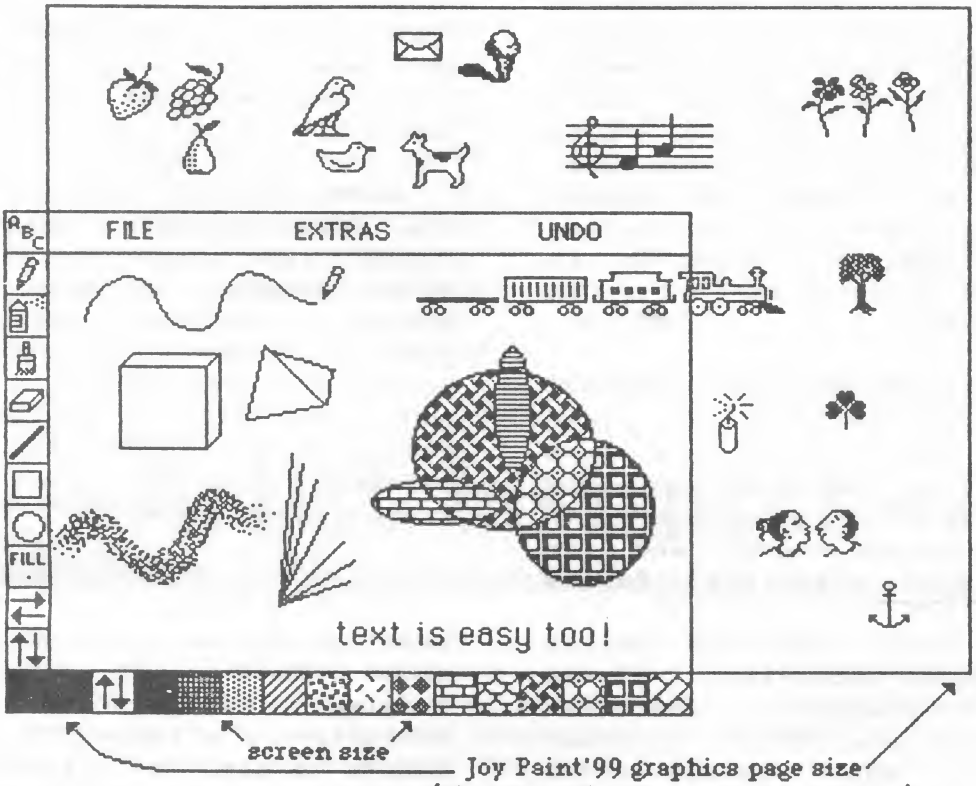

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THE SCREEN ACTS LIKE A WINDOW!

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Our all new 100% assembly language program features graphic capabilities found in no other software application. Use JOY PAINT '99 to create signs, charts, diagrams, advertisements, or graphics of any type. JOY PAINT '99 is sophisticated, yet simple to use. In fact, the user never needs to touch the keyboard; all functions are joystick controlled. There are no complicated function keys to remember, just simple on-screen TOOLS. JOY PAINT '99 allows circles and ovals to be drawn with incredible speed and precision. Lines, boxes and rectangles can also be quickly drawn! Additionally, the FILL, PAINT BRUSH, and SPRAY-CAN tools allow filling and painting in any one of twenty six selectable PATTERNS! JOY PAINT '99 also feature 8 different brush shapes!

A 'pull down window' contains many more features that make creating and manipulating graphics fun and easy. Any object can be INVERTED, ROTATED, FLIPPED VERICALLY or HORIZONTALLY, COPIED, MOVED, OR STORED ON A CLIPBOARD! A MAGNIFY feature allows graphics to be increased. A ZOOM OPTION, called FATPIXELS, allows fine single dot editing.

JOY PAINT '99 also contains dozens of features not found in any other graphics application. For instance an 'UNDO' feature that instantly 'takes back' the last portion of work the user performed! Its DIRECTORY feature can catalog your diskettes! JOY PAINT '99 CONSERVES DISK SPACE, by not saving the redundant blank areas in your graphics! Printouts can be made directly in normal, or double size, and in single or double density! Be among the first to experience this unique and practical program; ORDER YOURS TODAY.....$49.95 POSTPAID.

REQUIRES
TI-99/4A, 32K, Disk drive, Joy Stick, and one of the following: Extended Basic, Editor/Assm, or Mini-Memory.

Epson compatible printer such as Gemini 10x or 15x, TI impact, etc. is optional.

(soon other printers too!)

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slower than a compiled program which is a machine or assembly program. You write the program as usual, than run the program through a compiler. That program compiles a collection of assembly language or machine code commands. That "compilation" is what you then use when you need that program. The compilation is much faster, almost indistinguishable from a program written in assembly language. The 99/4A only recently got an example of a compiled BASIC and a compiled C. If you have yet to experience the utility of compilers, you will certainly enjoy the Geneve. The increased memory will, of course, make these compilers superior in performance to anything currently in use on the 99/4A.

A HOST OF GENEVE SPECIFIC PROGRAMS are to come. Lou Phillips of Myarc has estimated that four to five years of effort will be needed to complete the full sweep of programs needed to truly tax the Geneve system and the chips associated with it. During that period, if a new design comes along, the card, not the entire structure can be modified. Almost immediately however, terminal emulators, word processing programs that support such sophisticated typesetting concepts as proportional spacing will begin to arrive.

Potential new products for the Geneve include databases, spreadsheets and paint programs.

The Geneve is one of the most remarkable computers ever introduced. A technical marvel, not a ripoff or anyones clone. We are indeed fortunate that it has been designed to take advantage of the tremendous capability of the TI 99/4A... and its users. It should appeal to everyone, either as a first, a second or even third computer.

- by Chris Bobbitt (c)1986

FURTHER CONSIDERATIONS: Given the fact that the TI 99/4A is at a "dead end" in relation to long term viability, the Myarc 9640 presents the only alternative to the investment in hardware, software and time on the 'learning curve' for 99ers. The 99/4A simply does not receive the same support as any other popular computer system that is, in those magic words, "in production".

Granted, the level of support that DOES exist is phenomenal. That does NOT mean that such support will continue, say, as long as the old Apple II!

Given the fact that the 9640 is the only "upgrade rumour" ever seen RUNNING (all snide remarks aside) by 99/4A owners, it deserves consumer support. Obviously, the best way to make this work is through supporting Myarcs efforts, buying a Geneve as your next machine, selling your used equipment to other TI owners and patronizing the companies which support both machines.

CRAIG MILLERS 'IBM' MACHINE: MG made an announcement on January 16th about their IBM upgrade. The original note stated, "We were contacted by a large US company to design a piece of interface hardware and software for the 99/4A to allow it to use both IBM hardware and IBM software. This unit could be thought of as an IBM expansion system since it will not only allow you to use IBM software but you can also add IBM cards to the system! That's right, now you will be able to run things like Lotus 123, dBase, Microsoft Flight Simulator, Quick BASIC and the BASIC compilers. That is about all we can say at this time. In January '87 this US company will make their announcement as to price and availability."

Apparently the large US company is Triton offering the IBM type machine. Well, from the reports we've received this new hybrid system is a box which runs an 8088 processor and connects to your 99/4A system. This system does not include an IBM keyboard, you still use the 4A as an input device.

Worse, this does NOT allow program, data or information transfer. It is basically an IBM clone with more limitations than a typical PC.

The critics note that for the price ($500 - $600) you might as well buy a PC clone with keyboard, drive and monitor to sit next to your 99/4A.

Without the capability to transfer data, programs or information between the processors, my opinion is that this unit has little value for the 99/4A community other than running PC software. In my book, the best way to have accomplished this task would be through a processor bus interface ie: a TMS9650 Multiprocessor Interface chip to connect directly from the TI bus to an IBM bus via a short cable. With the cost of clone motherboards and a driver program at both ends the transfer of data from one system to the other would be more intelligent.

We shall certainly see what happens with this attempt at bringing IBM "compatability" to the TI community. At the projected price point, the extremely cost conscious TI 99/4A user certainly won't be compelled to jump. It will take far more to make most TI owners cross over to MS-DOS territory than a box to sit on your desk.

Be sure and let us know what you think about the details of this product!

Artist Instances

Now! for users of *TI-Artist* and *Font-Writer*! The most extensive, complete library of instances ever produced, exclusively from ***Asgard Software.*** Each single disk volume in the ***Artist Instances*** series is a valuable collection of highly-detailed instance clipart for use in any graphics project. Each individual volume is fully documented with explanatory notes and usage tips for *Font-Writer* and *TI-Artist* users. Each collection contains only the best artwork individually culled from hundreds of files and arranged by subject matter. Finally, each volume is available for an incredible price of only $9.00 each!

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Volume #4 - *Home:* A vast library of works depicting implements of the home and home repair, and of personal items.
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Volume #6 - *Computer:* Artwork about computers with pieces depicting office implements, transportation, and more.

Order all six volumes for only $43.20 - a 20% discount! Please add $.50/volume for shipping and handling. Mail orders to:

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C 99 RELEASE 3.Ø

Clint Pulley has done it again! We received the following announcement regarding the latest update for C 99.

I am pleased to announce the immediate availability of the third release of c99. Among the changes and new features are:

- c99 compiler V 2.1 with two dimensional arrays, the extern type specifier and an entry statement.

- the scanf family of formatted input functions.

- changes to printf et al to conform with standard 'C'.

- documentation for printf / scanf useages.

- elimination of minor bugs in the compiler and other files.

- a text file archiver (on the update disk only).

c99 release 3 is available in two forms. For those who have c99 Release 2, a single (SS/SD) update is available. For those who are still using the original release (versions 1.3 / 1.31 / 1.32) a complete new release of c99 is available on one (DS/SD - SS/DD) or two (SS/SD) disks. To obtain Release 3 of c99, send me one or two disks, a note indicating which form of the release you require and $1.ØØ return postage. For the single disk form of the complete release, be sure and let me know which disk format you need. If you are in contact with other c99 users, I would appreciate "group orders" to reduce the amount of time spent copying disks. In this case, please let me know the names of all recipients so I can keep my database up to date.

If you have already sent me the suggested donation in support of c99, please note that further monetary contributions are NOT expected.

I feel quite strongly that your donation entitles you to the finished product. If you really want to send something more, I am always pleased to receive the software which many of you have included on your disks. If your disk has files on it, pleased mention this in your note.

In closing, I would once again like to thank all of you whose donations I was unable to acknowledge individually. Your generous support provided much of the incentive for me to keep working on c99. Judging from the response of the '4A community, my results have been worthwhile.

Best wishes for 1987.

Clint Pulley
38 Townsend Ave.
Burlington, Ontario
L7T 1Y6

NOT POLYOPTICS - PRESS RELEASE

Not-Polyoptics announces new flight simulator. This new program is all machine language named "SPAD FLIGHT SIMULATOR". Staged in World War I France, this program goes beyond limited simulators to include full screen 3-D perspective line graphics, a 36Ø degree panorama of the area while in flight, complete acrobatic control of the plane, mathematical algorithms of the physics of flight and a battle mode for the expert pilot.

Some of features include:

6 views _ front, back, two sides, up and down.

Instrument panel including moving flight joystick.

Eiffel Tower in France.

Color graphics and continuous, infinite ground map.

'SPAD' will require a disk drive, Editor/Assembler cartridge and 32k memory expansion.

NOUVEAU, RAPIDE C99 ET TRES FACILE.

```
/* Table de conversion Fahrenheit-Celcius */
/*  Jean-Luc Brousseau ----- Mauricie 99  */
/*  964 Cinq-Mars                         */
/*  Trois-Rivières                        */
/*  Québec Can.    G8Z 3V2                */

#include dsk1.conv;c
#include dsk1.float;c
main()
{
      int fahr, sz, res, s, fah, i1, i2 ;
      char str [20] ;
      float f1 [8], f2 [8], f3 [8], res2 [8], f4 [8] ;
      char *c ;
      sz = 4 ;
      i1 = 5 ;
      i2 = 9 ;
      itof (i1, f1) ;
      itof (i2, f2) ;
      fexp (f1, "/", f2, f3) ;
      for (fahr = 0; fahr <= 300; fahr = fahr + 20)
      {
            fah = fahr ;
            s = itod (fahr, str, sz) ;
            puts("     ") ;
            puts(s) ;
            puts("  ----------  ") ;
            res = (fah - 32) ;
            itof (res, res2) ;
            fexp (res2, "*", f3, f4) ;
            fpput(f4, s) ;
            puts("\n") ;
      }
}
```

```
/* c99 Jean-Luc Brousseau  */
/* programme d'utilisation */
/* de "getchar" et de "if" */
/* pour ti-MOT novembre 86 */

main()
{ int rep;
  char crep ;
  puts("Aimez-vous programmer ? (O ou N): \n") ;
  rep = getchar() ;
  crep = rep ;
  if (crep == 'O' | crep == 'o')
  {  puts("Attendez de voir ce que vous pouvez faire!\n") ;
  }
  if (crep == 'N' | crep == 'n')
  {  puts("Essayez toujours, vous pouvez changer d'avis \n") ;
  }
}
```

```
/*      SPRITE DEMO      */
/* JEAN-LUC BROUSSEAU */
/*    5 NOVEMBRE 1986   */


#include dsk1.grf1rf

main()
{ int i ;
  grf1() ;
  screen(8) ;
  chrdef(64,"FF81BDA5A5BD81FF") ;
  clear() ;
  spmct(28) ;

  for (i = 0; i <= 27; i++)
  {   sprite(i, 64, 2, i * 8 + 12, i * 8 + 12) ;
      spmotn(i, 30, 0) ;
  }
  for (;;)
{ #asm
    LIMI 2
    LIMI 0
  #endasm
}
}
```

Available after February 1, 1987 from: Not Polyoptics,
PO Box 4443
Woodbridge, VA 22191

(703) 491-5543

PROGRAM REVIEW:

As promised, one (of many!) reviews for your edification:

TOTAL FILER - by Warren Agee from Asgard Software.

This program is another innovation for the 99/4A. Designed to organize your TI Writer text files in a "text database", Total Filer gives the unorganized (and organized) computer user a perfect tool.

I don't know about you, but I ALWAYS end up with disks FULL of a variety of programs and files... plus the odd text file, letter or document.

Finding one of these unorganized files on a past disk can be just a little confusing - even with a roadmap of all the filenames. Often cryptic names tell me nothing about what was saved.

Enter a freeform database. Total Filer is menu driven. Simply choose the function you need and go. After set-up the program gives a series of prompts to:

1. Input New Article
2. View Article
3. Edit Article
4. Save Article
5. Print Article
6. Keyword Search
7. Utilities
8. Extras

Article in Memory reminds you what you are working on. From these choices the entire point is to enter descriptive information on text files, disk names or numbers, locations, abstracts or any other type of information in a "freeform" format. You can change the prompts to reflect your way of doing things so that the program can organize your 'shoebox' format if you like.

This is my type of database. With the keyword search and wildcard option, I can search for anything listed in the files! The other options in the program include searching by titles, viewing and printing records, compress the index of full disks (to speed keyword searches) and printing of a Master Listing of all the titles stored on your data disk.

Price $24.95 from Asgard Software
PO Box 10306, Rockville, MD 20850

Ah Ha! The LAST word on piracy.

In the February issue of Computer Shopper there are two references to a protection scheme "SMARTI ARTI" to protect software from both casual and professional pirates. MANY computer users are dead honest and purchase lots of new software. On the other hand, we have the trading routes, clubs, friends network and BBS downloads for commercial software. Apparently seeing your long hard work stolen is more than disheartening for authors. Many authors are not writing new software for this reason.

QED little or no new software.

Now comes a protection running on MS-DOS systems which is not like the protection schemes of old. You can make as many backup copies as you like, you can use these copies to restore an erased master. You can load and run the programs from any disk drive, hard drive or RAM disk. The trick is that the backup copies cannot be executed. The FIRST time you run the program, a screen appears which asks you to call an 800 number to give a serial code. You are given an access code for your serial number and that's it.

This protection does not get in

NEW FROM MONTY SCHMIDT: **GPL LINKER V1.1 Run Time Version**

GPL Linker is an ingenious program that places the power of Graphics Language Programming (GPL) at your command. No extra hardware is required beyond standard 32k and disk system. In short, Linker creates runnable program files from compressed (or uncompressed) GPL Assembler object files. You can then run these programs with "Option 5 Run Program Files" of the Editor Assembler Module.

Up to 24k GPL programs can be developed and run on standard 32k systems. Included in the run time version are two demonstration programs and "CONVERT," a public domain conversion program that converts MS BASIC statements to TI BASIC statements.

Price: $21.00 CDN funds $15.00 US funds.

now $49.95
w/Linker $59.95
plus Intern $69.95
add $3 shipping

GPL price Reduction

ENHANCED
GPL Assembler V2.1

NØW with high memory loader package

UNLOCK ALL THE SECRETS! New GPL Assembler Version 2.1 available exclusively through Ryte Data.

This program provides the power to write, edit and assemble true GPL programs for the TI 99/4A. Create code that accesses console operating system routines directly. Develop programs that use the GPL Interpreter and all the features of the TI 99/4A.

This package includes the GPL Assembler disk, printed documentation, GPL tips and hints, update support service and commented GROM/ROM listings (with the book "INTERN"). An example for a command module type GPL program is included with source, object and list files on disk.

Requires: 32k memory, disk drive(s), TI Editor Assembler package. Printer/RS-232 recommended.

GRAM 128k CARD
from Mechatronic

Features:

- > 128k RAM/GRAM memory • 64k RAM and 64k GRAM
- > Expandable to 512k • Two = 1 megabyte RAM
- > Load and run assembly programs
- > Load and run GPL programs
- > Save GROM modules and programs to disk
- > Save ROM programs to disk
- > Load and run ROM/GROM programs
- > Use "Load" files for custom system operation from main menu screen
- > Add an extra 13k to Basic programs
- > Menu access up to 8 choices (modules, etc.) from main screen
- > Load console GROMS 0-2 into the GRAM card, modify the 99/4A console operating system for new features!
- > All software is on card. No disk required.
- > Review module library from main menu
- > Hex monitor allows you to change CPU, VDP and GROM memory directly from keyboard input
- > Change CRU address base via switches

$249.50 US FUNDS

THANK YOU! Our business has grown 300% this year. To show our appreciation we are **giving away** hundreds of dollars in TI products to 99/4A owners or users groups. To enter drawing, (no purchase necessary) send your name and address on a postcard to Ryte Data.

Prices listed in U.S. funds.

New catalogue available.

Super Clock Support

Designed for the CorComp Clock Peripheral—Triple Tech Card or Stand-alone models. This utility package provides more functions for use in your Extended Basic programs. Direct access to the clock ROM at assembly speed gives you these features: three independent timers to set and read; alarm function; two interrupt routines to display time and date on screen with CTRL T—continuously or on your command; all time and date displays are in 12 or 24 hour format using **TEXT.** This program also allows the week, date and time to be set independently rather than all together.

Program disk is not copy protected to allow you full use in your Extended Basic programs. Package includes disk and instructions. Only $17.95 plus $2

XBII plus

As reviewed in Micropendium October 1985. This command module gives you all the features of Extended Basic PLUS 40 new commands. Totally compatible with TI's XB, this enhanced version gives your programs more power to access your 99/4A. Commands such as MLOAD, MSAVE, VPEEK, VPOKE, GPEEK are superior to most other Basic environments. Various demo programs and new applications using high resolution graphics make this module a "must" for Extended Basic users. Comes complete with a 95 page manual. Requires console and 32k. $75.00 (US) plus $2 shipping.

BASIC Compiler V1.1

New Basic Compiler that is finally easy to use! Supports virtually all Basic and Extended Basic commands in existing programs. Simply load and compile programs from a menu driven directory on your screen. No extensive re-writing, variable declarations or conversions are required. Compiler produces code-list in one pass containing all variable addresses and jump list. Package includes Extended Basic Loader, Floating Point Loader, Integer Loader, Disk Menu program and DSR program for the Compiler support. This Compiler cannot unravel DEF statements and stops on the END statement—no SUB's allowed. TRACE, BREAK, ON ERROR, CALL LOAD and CALL LINK may produce execution errors. Requires 32k, disk. Price: $20.00 plus $2 shipping (US funds).

Ryte Data..... (705) 457-2774

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210 MOUNTAIN STREET,
HALIBURTON, ONTARIO K0M 1S0
TELEX 06-986766 TOR. ATTN: RYTE DA

the way. It does not add wear and tear to your system. It does not prevent the legal use or backup of your software investment. It DOES prevent the casual or professional distribution of commercial software.

The trend has been towards no copy protection (and falling revenues) in the IBM worlds. Large commercial companies have decided that the inconvenience and backlash effect of protected software is 1) not worth the problems and 2) not effective.

PRIDE SOFTWARE DEVELOPMENT CORP. is offering $25,000.00 to the first person who can demonstrate the method used to crack this protection. Pride is quite confident that their SMARTI ARTI COPI-CONTROL cannot be broken. Contact PRIDE at 3575 NW 31st Ave., Oakland, FL 33309 (305) 731-4333.

This entire approach will work even better than the "name and address" encryption used. Program copies with serial numbers can simply be shipped as before with only one company holding the "key" to their legal use and distribution. It will even be possible to have legal "software rental" or "evaluation clubs" because the rentee cannot run any copies taken from the 'rented' software.

Therefore, this is the last "article" on software piracy we will run. The point has been made. Best of all, the solution to the "publish and perish" software/piracy dilema has been achieved by PRIDE.

MYARC RAMDISK BACKUP:

from the Titex User Group Newsletter

The following diagram illustrates an often asked question about the Myarc RAMDISK memory card. The jack on the back of the card was designed to allow a 9V power supply to retain memory contents when the power was off in the PE Box. This allows a battery pack to maintain power for up to two hours in the event of a power failure.

1) 9v DC power supply to operate the computer card (Myarc 128k or 512k Memory Expansion Card) during periods when the TI computer is off.

2) In addition, the 9V supply continuously charges the seven rechargeable "AA" batteries to supply power to the computer card in the event of an AC power line failure.

3) The battery backup will provide power to the computer card for approx. one to two hours.

4) The wiring diagram shows Radio Shack part numbers (in parenthesis) which can be purchased for around $27.00. Hookup requires a DC voltmeter to determine voltage polarity (+ or - terminals) and a soldering iron or gun.

5) EDITORS NOTES: These instructions are for AC/DC back-up fo the card. I have found that AC power alone is unrelaiable for more than a few hours of off time. This battery backup uses rechargeable "AA" batteries but any type of DC power which totals 9 volts will work. If you use 6 "D" cells (not rechargeables) this conversion will be simpler and less expensive. At our calculated rate of use, even this backup should last approximately one year since the AC adapter does most of the back up work.

Use your judgement in determining which method of backup is correct for your needs. Bear in mind that Arthur Leber, TITEX Users Group, Myarc Inc. and myself are not in any way responsible for results not consistent with the users desires. My own recommendation is not to try this unless you are familiar with the terms and instructions used. (Get some more expert assistance). Feel free to write or contact via BBS (516) 475-6463.

OBSERVE THESE INSTRUCTIONS:

1. Cut the connector off the 9V DC power supply and strip the conductor leads to expose conductors.

2. Attach a DC voltmeter across the leads and plug the power supply into a 120V AC outlet.

3. Determine the + and - polarity of the 9V DC power supply.

4. Wire up the battery holder to use seven "AA" rechargeable batteries in a series connection. Note that this holder normally accomodates eight "AA" batteries in a series connection. After completing the indicated connection only seven batteris are needed for the wiring diagram shown.

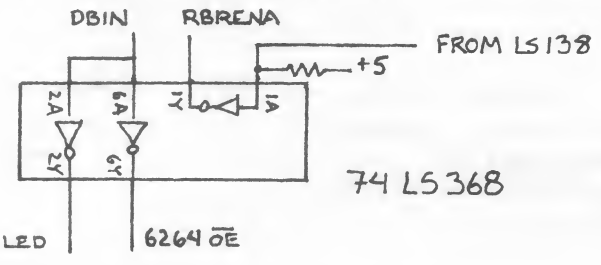
5. Attach the DC voltmeter across the battery holder (with the seven charged batteries in place) and determine the + and - polarity of the battery back up unit.

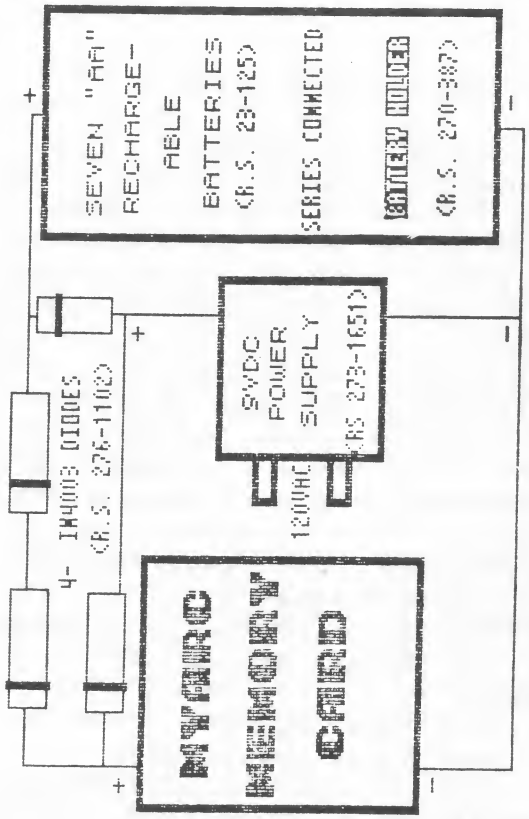
6. Wire circuit and solder connections as shown in the wiring diagram below.

7. Examine your Myarc card connection carefully. If you do not have the small jack at the back - only three holes, you will need to open the card and add D2, VR1, C26, C26, C29, C30 from the 9V trace to the card circuitry. Sending a 32k card back to Myarc might be a wise move.

8K RAM CARD UPDATE:

The following two leads on the LS368 chip in the diagram were possibly reversed in a drafting error: 1Y and 6A. I designed the chip select circuit such that you have to set a CRU bit ON before accessing the 8k. I believe this will prevent accidentally having the 8k RAM active with another cartridge plugged in that has code at >6000; better than remembering to flip a switch. - Tony Lewis





TECHNICAL DRIVE: a new book by Monty Schmidt (c)1986 is being published by Ryte Data. Covering the TI 99/4A Device Service Routines found in the TI Disk Controller, RS-232, Mini-Mem DSR Link and CorComp Clock Card. Available for $17.00 plus $2.00 shipping and handling from Ryte Data, 210 Mountain St., Haliburton, Ontario K0M 1S0 (705) 457-2774

ORPHANS SURVIVAL HANDBOOK a new book by Ron Albright (c) 1986 is being published by Disk Only Software. This book covers all the information to make your computer ever more usefull. Sources of hardware, software, publications, programming, modifications etc. Available for $16.95 plus $2.00 shipping and handling from DOS, Box 244, Lorton, VA 22079 (301) 369-1339

GROM LIBRARY BOX a new hardware project by Peter Hoddie and Barry Traver. The GLB will allow you to plug up to 15 modules into the system. From within the O/S you could then access the modules from within running programs. The projected price is said to be about $60.00 (US).

FOR CASSETTE USERS:

Clyde Colledges High Speed Cassette Loader by Mickey Schmitt. As promised this month I am continuing with the topic of Clyde's loader. Let me say once again... if you are using a cassette system, THIS PROGRAM IS A MUST! It is by far one of the most impressive cassette utilities available to date!

While loading Clyde's program is not a difficult process in itself, understanding the procedure for the very first time can be a little confusing. With that in mind:

Instructions-

1. Insert Extended Basic Module
2. Select Option #2 - Extended Basic
3. Type: OLD CS1
4. Then: Press ENTER
5. Follow the directions as they appear on your monitor or TV screen.
6. Wait for the flashing cursor to appear in the lower left-hand corner of your monitor or TV screen.
7. Type: RUN
8. Then: Press ENTER
9. The computer will then return back to the Extended Basic screen with the message: *READY* and the cursor will once again be flashing in the lower left-hand corner of your monitor or TV screen. Clyde Colledge's High Speed Cassette Loader is now loaded.

INSTRUCTIONS FOR USING CLYDE'S LOADER:

1. After you have loaded Clyde's loader type: CALL LINK("OLD")
2. Then: Press ENTER
3. You can load in any program which you have on cassette in half the amount of time that it would have taken you normally!
4. Just follow the directions as they appear on your monitor or TV screen. That's all there is to it.

Clyde's loader has two very special features that should not go without mention. First of all... the high speed routines are exactly the same as Texas Instruments cassette routines; making this program very user friendly. Secondly... once the load program has been placed in the 32k memory, it will stay in memory... even if you accidentally hit "FUNCTION QUIT". Just retype: CALL LINK("ON") and you are ready to go. You can't lose the "Load Program" unless you turn off the console!

If you wish to purchase this program please send $5.00 (US) to:

WEST PENN 99"ERS
c/o John F. Willforth
R.D. #1 POX 73A
Jeannette, PA 15644

ATTN: WEST PENN LIBRARIAN

Editors note: This program ALSO allows cassette users to load and run programs LARGER than the 12k limit built into the console cassette routines. It DOES require Extended Basic and 32k memory... which you can install inside your console (refer to issue #5 of R/D Computing). The advantages of this utility are very obvious. Makes life with a cassette much easier!

Next month we promise to publish a schematic to make adding 32k even easier for console owners!

RENEWALS For many current 1986 subscribers this is the LAST issue of your paid subscription. If you have not renewed - do so now! Simply drop a cheque for $14.00 US or $20.00 CDN into the postage paid envelope and give it to your mailperson!

We will see you with VOLUME 2 ISSUE #20 next month. With the improved time frame we are now able to increase the size of this publication. Please note that we are at 20 pages starting with this issue.

Please help us by submitting articles, programs and interesting information for other TI owners around the world.

We now send issues across Canada, the United States, Israel, West Germany, Italy, Australia, England, Argentina and one in South Africa and Singapore. Thankyou for your support. With you, anything is possible in the TI 99/4A universe.

TI FAIRES:

There are a number of TI Faires planned for 1987. We are running out of room here but the first (that we know of) is the New Jersey TICOFF
March 28, 1987.
Roselle Park High School, Roselle Park New Jersey. Admission $5.00

Boston Computer Society April 4, 1987

Los Angeles May 2, 1987.

Ottawa Users Group and the Chicago Users Group are rumoured to be planning TI Faires in their areas for 1987 as well.

In those famous words, BE THERE!

LAST NOTE:

A persistent rumour is that CorComp Incorporated has just filed Chapter 7 in bankruptcy court. THIS IS FALSE. CORCOMP DID NOT FILE. The rumour got its start with the fact that companies operating in Chapter 11 must file new documents with the courts at the beginning of the year.

In talking with Mike Norton, CORCOMP is ready to release "Writerease", a TI Writer compatible word processor which works with CorComps "Memory Plus" 256 and 512k memories.

Writerease reportedly has a spelling checker with a 30,000 word dictionary that resides in memory. It will allow you to check a word while working on your document, and is "lightening fast" in operation.

Writerease will be available to all 99ers with 32k and a disk drive. For owners with CorComp memory products, the support files will reside in memory for even faster operation.

RAPID COPY

If your tired of waiting for your disk manager to copy or format your disks, Rapid Copy is here to help you. Rapid Copy is the only turbo copier specifically designed to take full advantage of the Myarc, CorComp, and Texas Instruments disk controller cards.

How fast is Rapid Copy? Copying a double-sided, double-denisty disk takes only 1 minute and 17 seconds, which includes formatting the target disk! On average Rapid Copy is six times faster than the disk copy functions of the Myarc, CorComp, and DM1000 disk managers.

Rapid Copy is simple to use, fully menu driven, and allows a multitude of copy and format options. Not only is Rapid Copy endorsed by Myarc Inc. for use with its disk controller card, a new modified version of the Myarc disk manager (included) allows you to load it from within its utility option for your convenience!

Rapid Copy is available for only $14.95. Requires 32K memory expansion, disk drive system consisting of at least one floppy disk drive, and either the Extended Basic, Editor/Assembler, or TI-Writer command module.

Texaments
53 Center Street, Patchogue, New York 11772

Mail orders please add $1.50 for postage and handling. Sorry no credit card orders accepted. Call our office (516-475-8480) or bulletin board service (516-475-6468) for more information. Dealer inquires are invited.

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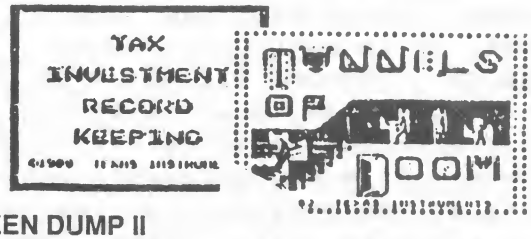

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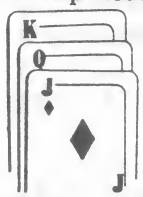

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The popular and challenging card game of Solitaire, is now computerized for faster and easier playing. Incredibly easy to play. Lightning fast. Entire columns of cards move in the blink of an eye. Test your skill against Lady Luck. Plus, you get TWO games for the price on one! Also includes Las Vegas style Solitaire, with automatic score keeping. Are you good enough to beat the odds? Many hours of exciting fun. Watch out, this one is addictive!

The best I have ever seen!" - F.B. WI

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"Better than the MacIntosh solitaire!" - T.M. MD

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REDFORD, MI 48239

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Have you or your friends upgraded to a Myarc, CorComp or Atronic DS/DD Disk Drive Controller Card? We would like to purchase your old TI controller card. We only require the card - and the Disk Manager II module if you still have it. No cables, stand alone units or power supplies. Contact Ryte Data (705) 457-2774 9-5 M-F.

MAIL LIST
Mail list stores up to 400 records. Sort by name. Search by part of last name. Print labels and listings. Entire program loaded into memory eliminating numerous disk changes. Requires TI 99/4A, XBasic, disk drive, 32k mem. Printer optional. Write: K.G. Mori, 181 Atlantic Avenue, Winnipeg, Manitoba R2W 0P7 Canada.

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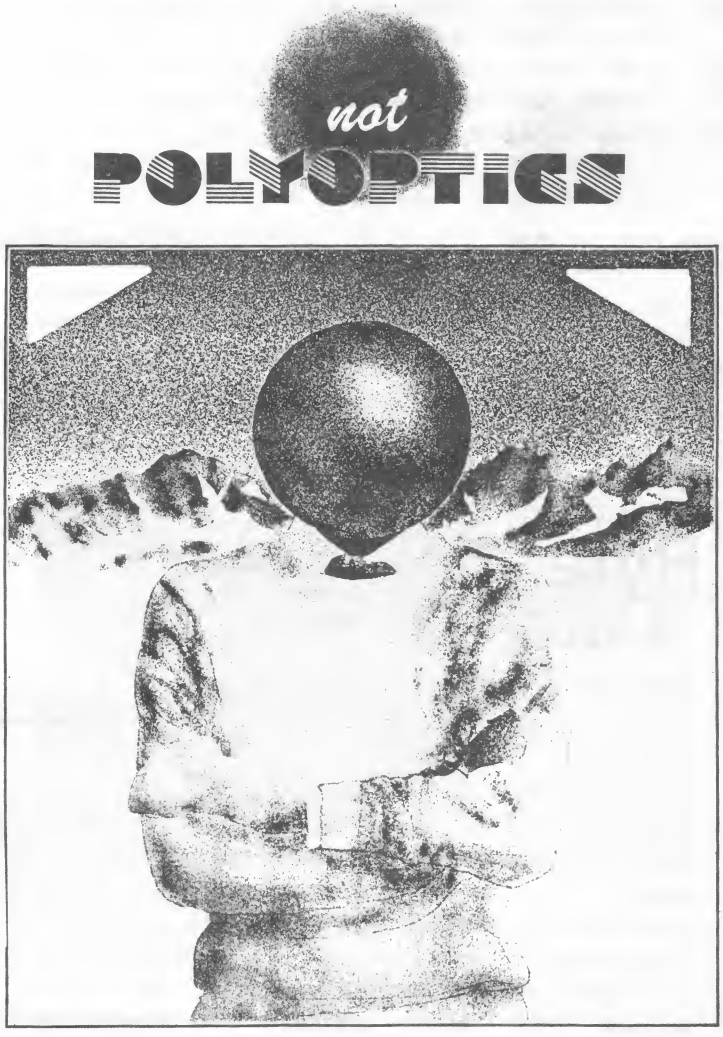
another one YVONNE BRUNET from Quebec also vanished leaving no address!!!



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V1.7 Maximem review, EEROM programmer, Sense and control card.
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V1.9 Dual disk controller project, RESET switch project.
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V12.5 Myarc 640k Geneve, Console speed upgrade, Video monitor filter, Gramkracker review, ATRONIC products.
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V17 Tigercub, Eprommer update, Quad density update.
V18 Power Supply, RAVE 99 Keyboard, Year Review.

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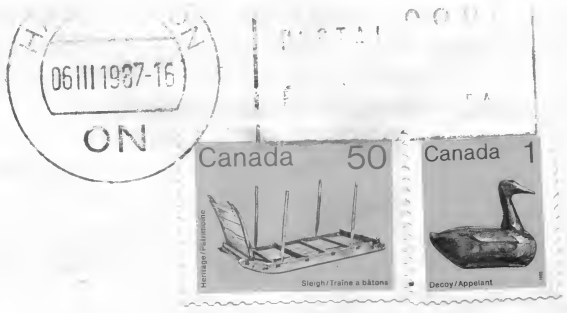

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